Microsoft Configuration Manager On-Demand Assessment: Prerequisites and Configuration

This document explains the required steps to configure the Microsoft Configuration Manager (ConfigMgr) Assessment included with your Azure Log Analytics Workspace and entitled Microsoft On-Demand assessment.

There are configuration and setup tasks to be completed prior to executing the assessment setup tasks in this document. For all pre-work, follow the Getting Started with On-Demand Assessments in the Services Hub Resource Center.

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This document was last updated January 2024. To ensure you have the latest version of this document, check here: https://go.microsoft.com/fwlink/?linkid=860108

System Requirements and Configuration at Glance

According to the scenario you want to use, review the following details to ensure that you meet the necessary requirements.

Supported Versions

- Supported versions of Configuration Manager with site systems running supported Windows Server version.
- Configuration Manager hierarchy must be spanning across a single forest
- Management Point (MP) list must be configured on a single port to avoid MP Checks misfiring. To check this please run the below WMI:

```
(get-wmiobject -Namespace root\sms\site_<sitecode> -Query "select * from SMS_SCI_Component where ComponentName= 'SMS_MP_CONTROL_MANAGER'").Props | Where-Object {$_.PropertyName -eq "IISPortsList"}
```

Configuration scenarios

There are 3 scenarios available to configure the assessment. Determine which scenario fits best for your organization.

- Azure ARC enrollment
- Azure VM Extension
- Disconnected Environments

See setup instructions from setupassessment.pdf

Common to all scenarios

- You will need a log analytics workspace
- Local Administrator on the data collection machine
- Azure Contributor role at subscription level
- **User account rights:**
    - A domain account with the following rights:
        - Admin access to every server (Site System) in the Configuration Manager hierarchy. Single user account if Site Systems are in Multi-Domain Environment
        - Unrestricted network access to every server (Site System) in the Configuration Manager hierarchy
        - Administrator permissions to all SQL servers used by the Configuration Manager Sites or Software Update Points
        - Full access rights to all the Configuration Manager Site objects in all Primary Sites
        - SysAdmin permission to all SQL Instances used by Configuration Manager Sites or Software Update Points.

Data Collection Machine

- The **data collection machine** must be a member of the Active Directory domain in which the Configuration Manager hierarchy resides that you wish to be assessed and needs to have the **Configuration Manager console installed on the data collection machine.**
- **Data collection machine hardware:** Minimum 8 gigabytes (GB) of RAM, 2 gigahertz (GHz dual-core processor, minimum 10 GB of free disk space.
- The **data collection machine** is used to connect to your Configuration Manager hierarchy and retrieve information from it, communicating over Remote Procedure Call (RPC), Server Message Block (SMB), WMI, remote

registry, SQL Database, Lightweight Directory Access Protocol (LDAP) and Distributed Component Object Model (DCOM).
- Microsoft .NET Framework 4.8 or newer installed and running Windows Server 2016 or newer.
- **Antivirus** and any other type of **Security software** need to be configured to exclude Assessment related files, file types, working directory folders and process (**Omsassessment.exe**) to avoid process termination, blockage and alerts. Add an exclusion to Windows Security.
- The data collection machine must have the Azure Monitoring Agent for Windows (AMA)[1] installed (see setup instructions from setupassessment.pdf) and configured for one of the deployment scenarios at the beginning of this document.

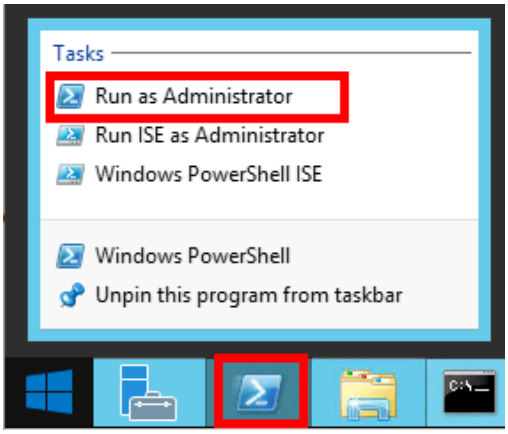
After you have finished the Azure Monitoring Agent for Windows (AMA), continue with the next section to set up the assessment.

Setting up the Configuration Manager Assessment

When you have finished the installation of the Azure Monitoring Agent, you are ready to setup the Configuration Manager Assessment. There are two approaches to setting up the assessment scheduled task depending on whether the scheduled task account will be a managed service account or a user account (outlined in steps 2 and 3 below).

On the designated data collection machine, complete the following:

1. Open the Windows PowerShell command prompt as an Administrator



2. **Using a User Account:**
   Run the **Add-SCCMAssessmentTask -ServerName <YourServerName> -WorkingDirectory <DirectoryPath>** command where <YourServerName> is the FQDN or NetBIOS name of one of the ConfigMgr Servers that's topmost in the hierarchy (Central or Primary Site) and <*DirectoryPath*> is the path to an existing directory used to store the files created while collecting and analyzing the data from the environment.
   NOTE: If the directory does not exist, it must be created before you continue with the execution

3. **Using a Managed Service Account:**

[1] The Log Analytics agent (also known as MMA and OMS) has been retired on August 31, 2024. **Migrate to Azure Monitor agent (AMA)** to continue ingesting data.

Managed service accounts are the preferred option for running the assessment due to their credential management and security related benefits over standard user accounts. Managed service accounts must be provisioned in Active Directory Domain Services and authorized in the environment.

1. Follow the instructions in the provisioning KB article
2. Authorize the account with the necessary environmental access per the User Account Rights section in this document. On the designated data collection machine, complete the following in an admin PowerShell prompt:

   Add-SCCMAssessmentTask -ServerName <YourServerName> -WorkingDirectory <DirectoryPath> -ScheduledTaskUsername <MSAname> -RunWithManagedServiceAccount $True

command where <YourServerName> is the FQDN or NetBIOS name of one of the Configuration Manager Servers that's topmost in the hierarchy (Central or Primary Site), *<DirectoryPath>* is the path to an existing directory used to store the files created while collecting and analyzing the data from the environment and <MSAname> is the SAM account name (ending with a $ sign) of the provisioned and authorized managed service account.
NOTE: If the directory does not exist, it must be created before you continue with the execution

4. Provide the required user account credentials. These credentials are used to run the Configuration Manager Assessment.

```
[SCCMAssessment]Detected agent configuration for Management Group AOI-49900795-7a88-4eee-a2de-ca8a46fc0c9e
[SCCMAssessment]Enter the credential to be used to run this assessment. Credentials will be used to connect to remote server(s) for a
ssessment.
[SCCMAssessment]User(DomainName\UserName):
redmond\romin
[SCCMAssessment]Enter the password for redmond\romin:
**********
```

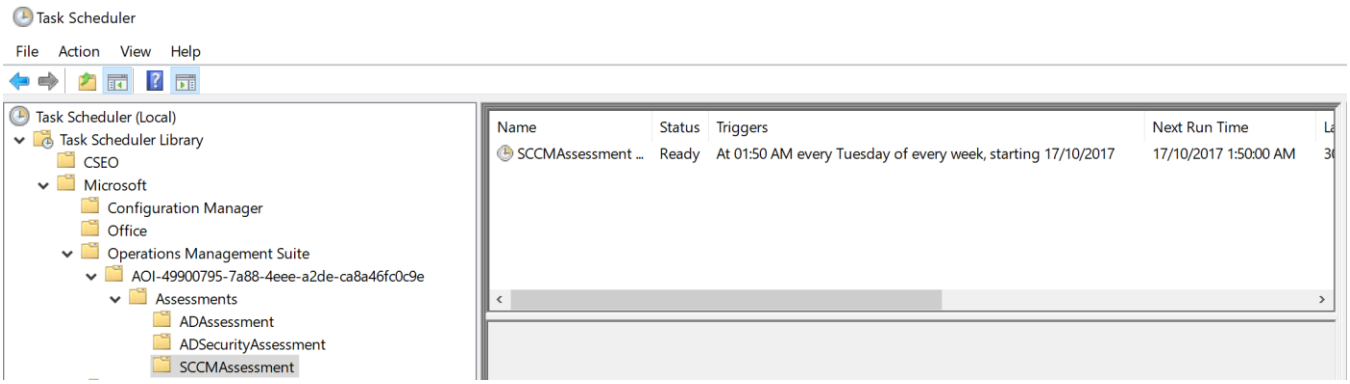
NOTE: This domain account must have all the following rights:

- Admin access to every server (Site System) in the Configuration Manager hierarchy. Single user account if Site Systems are in Multi-Domain Environment
- Unrestricted network access to every server (Site System) in the Configuration Manager hierarchy
- Administrator permissions to all SQL servers used by the Configuration Manager Sites or Software Update Points
- Full access rights to all the Configuration Manager Site objects in all Primary Sites
- SysAdmin permission to all SQL Instances used by Configuration Manager Sites or Software Update Points.

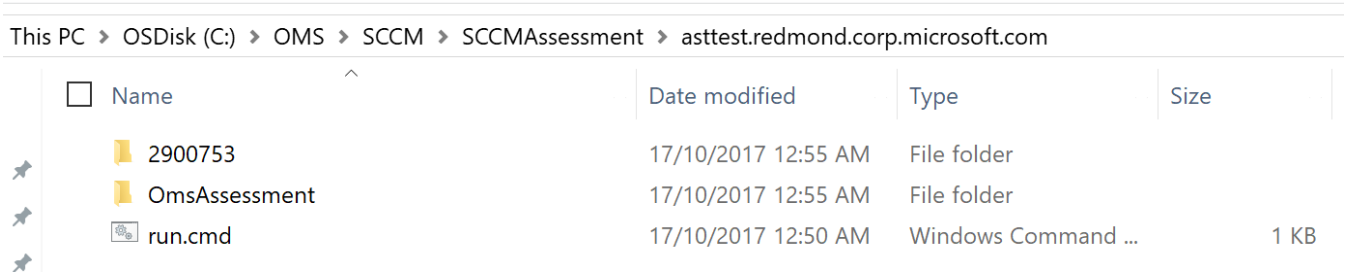
5. The script will continue with the necessary configuration. It will create a scheduled task that will trigger the data collection.

```
[SCCMAssessment]Detected agent configuration for Management Group AOI-49900795-7a88-4eee-a2de-ca8a46fc0c9e
[SCCMAssessment]Enter the credential to be used to run this assessment. Credentials will be used to connect to remote server(s) for a
ssessment.
[SCCMAssessment]User(DomainName\UserName):
redmond\romin
[SCCMAssessment]Enter the password for redmond\romin:
**********
[SCCMAssessment]Creating Windows Schedule task to run assessment...
[SCCMAssessment]SCCMAssessment setup successful.
[SCCMAssessment]Detailed log is at: C:\Users\romin\AppData\Local\Temp\Assessments_Configuration_20171017_075011.log
PS C:\users\romin>
```

6. Data collection is triggered by the **scheduled task** named "**SCCMAssessment -ServerName <YourServerName>**" within an hour of running the previous script and then every 7 days. The task can be modified to run on a different date/time or even forced to run immediately.



7. During collection and analysis, data is temporarily stored under the **WorkingDirectory** folder that was configured during setup, using the following structure:



8. After data collection and analysis is completed on the tools machine, it will be submitted to your log analytics workspace depending on the scenario you have chosen:
    - **Directly:** if the Data Collection Machine is connected to the Internet and configured to submit directly.
    - **Through the Log Analytics Gateway Server:** if this option is configured, which will then submit the data to your log analytics workspace.

9. After a few hours, your assessment results will be available on your Log Analytics and Services Hub Dashboard. You can navigate to see the results by going into **Services Hub -> IT Health -> On-Demand Assessments** and then clicking on "**View all recommendations**" against the active assessment.

10. You will then be presented with findings grouped by the focus area.

Appendix

Data Collection Methods

The **ConfigMgr Assessment in the log analytics workspace** uses multiple data collection methods to collect information from your environment. This section describes the methods used to collect data from your environment. No Microsoft Visual Basic (VB) scripts are used to collect data.

1. Registry Collectors
2. LDAP Collectors
3. Windows PowerShell
4. File Data Collectors
5. Windows Management Instrumentation (WMI)
6. SQL

1. **Registry Collectors**
   Registry keys and values are read from the data collection machine and all site servers. They include items such as:
   - Operating System information from HKLM\SOFTWARE\Microsoft\Windows NT\CurrentVersion
     This allows you to determine operation system information such as Windows Server 2016 or later.

2. **LDAP Collectors**
   LDAP queries are used to collect data for the domain, domain controllers, nTDSSiteSettings objects, partitions, and other components from AD itself. For a complete list of ports required by AD, see: http://support.microsoft.com/kb/179442.

3. **Windows PowerShell**
   Used to collect information from Configuration Manager hierarchy servers.

4. **FileDataCollector**
   Enumerates files in a folder on a remote machine, and optionally retrieves those files.

5. **Windows Management Instrumentation (WMI) Collectors**
   WMI is used to collect various information such as:
   - WIN32_Volume
     Collects information on volume settings for each domain controller in the forest. For example, the information is used to determine the system volume and drive letter, which allows the assessment to collect information on files located on the system drive.
   - Win32_Process
     Collect information on the processes running on each DC in the forest. The information provides insight on processes that consume a large amount of threads, memory, or have a large page file usage.
   - Win32_LogicalDisk
     Used to collect information on the logical disks. We use the information to determine the amount of free space on the disk where the database or log files are located.

6. **SQL Data Collectors**
   SQL queries are used to collect information from Site Servers.